Confernece on Measuring and Achieving Universal Health Coverage with ICT in Asia Pacific

Manila, Philippines, 2-3 December 2014
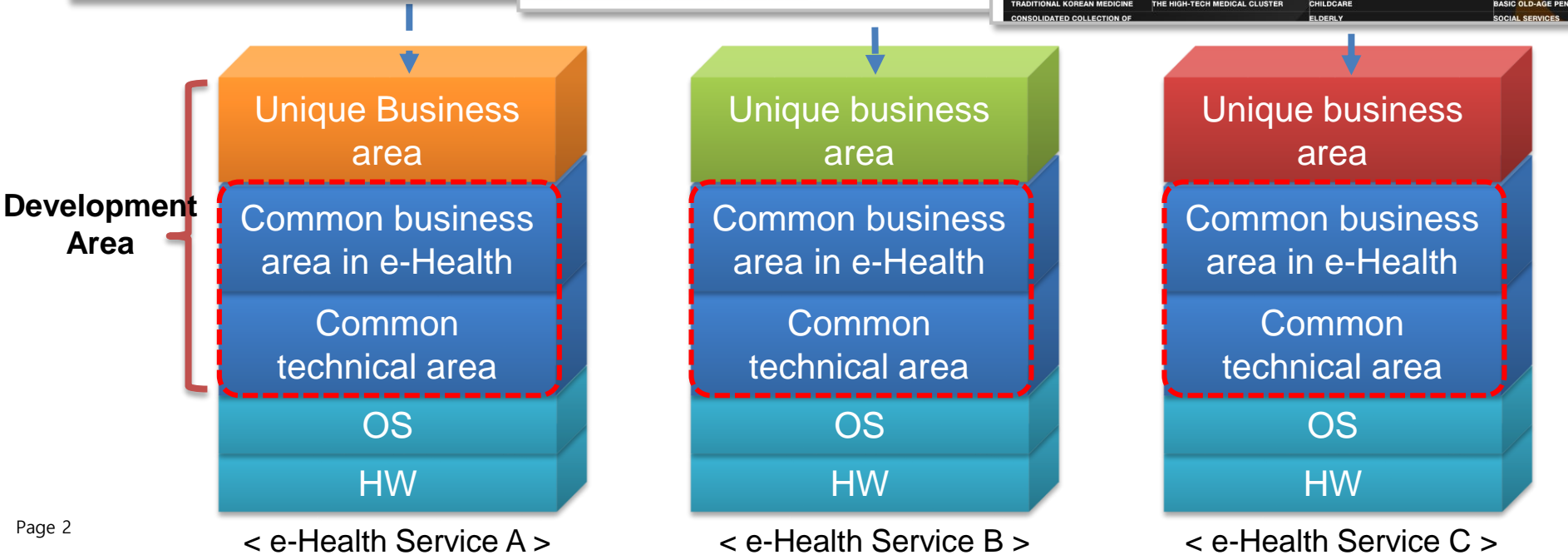
Operationalizing the e-Governance Framework for health

Guil Kang

Principal Manager, National Information Society Agency(NIA)

Issues on e-Health service implementation

Development Area

| Unique Business area |
| Common business area in e-Health |
| Common technical area |
| OS |
| HW |

< e-Health Service A >

| Unique business area |
| Common business area in e-Health |
| Common technical area |
| OS |
| HW |

< e-Health Service B >

| Unique business area |
| Common business area in e-Health |
| Common technical area |
| OS |
| HW |

< e-Health Service C >

Issues on e-Health service implementation

| Provide better service delivery | Improve efficiency of service development | Reduce cost and time of service development |

" *How can we develop application/service more efficiently and effectively with better quality?* "
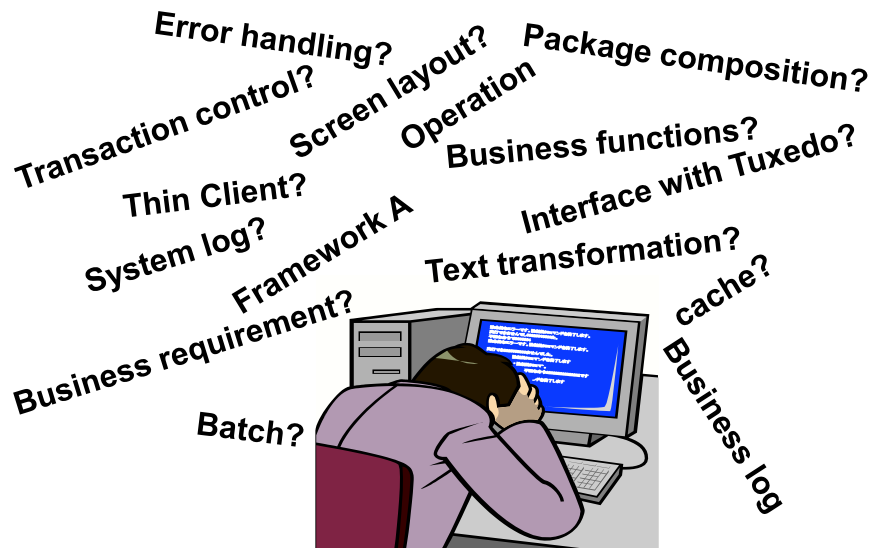
Key Enabler *is…!!* **Software Framework**
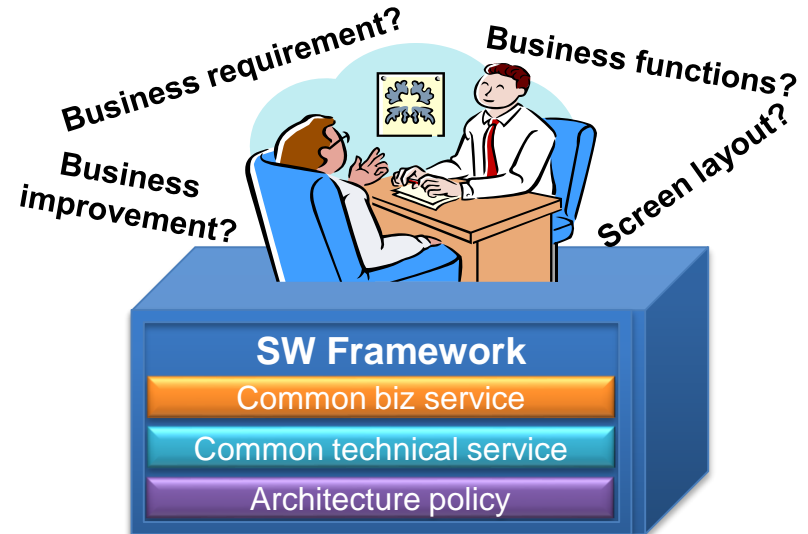
Software framework is essential

Software framework is a special case of **software libraries** in that they are **reusable abstractions of code** wrapped in **a well-defined API**. [Wikipedia]

- **Most of technical issues** are handled by SW framework
- **With Software framework**, you can improve **20-30% of development productivity** and enhance the **quality of application/service**
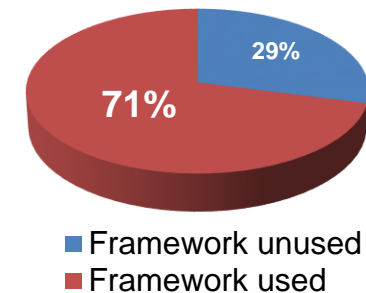
<IS development without SW framework>

Error handling?
Transaction control?
Screen layout?
Package composition?
Operation
Business functions?
Thin Client?
Framework A
Interface with Tuxedo?
System log?
Text transformation?
Business requirement?
cache?
Batch?
Business log

<IS development with SW framework>

Business requirement?
Business functions?
Business improvement?
Screen layout?

SW Framework
Common biz service
Common technical service
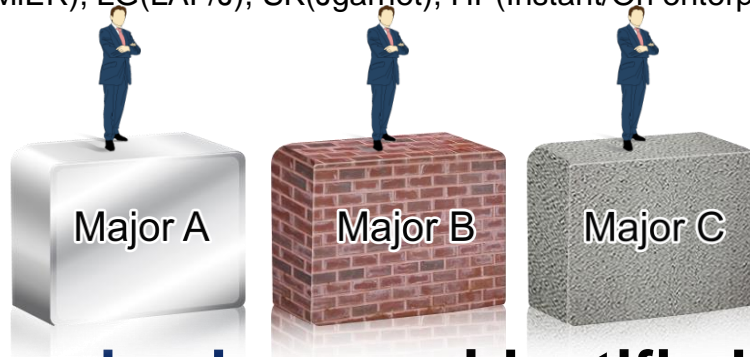Architecture policy

* IS : Information System, SW: Software

Proprietary SW frameworks and their cons

SW framework is **a basic tool** for developing application/service

- 71% of Government applications utilized proprietary SW framework

    * Samsung(SYSTEMiER), LG(LAF/J), SK(Jgarnet), HP(Instant/On enterprise), MS(.NET)
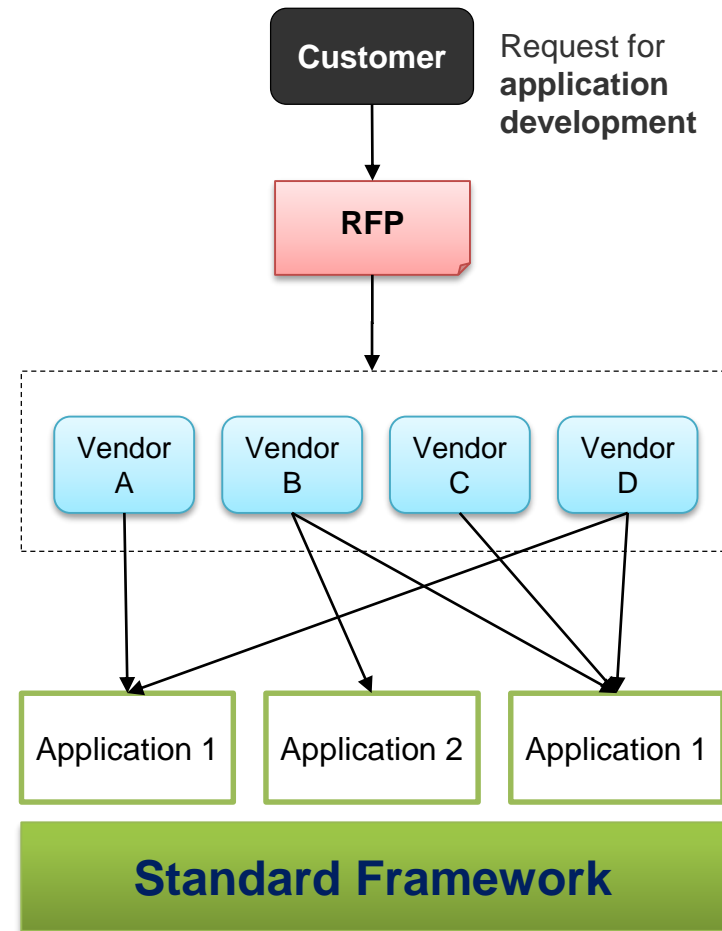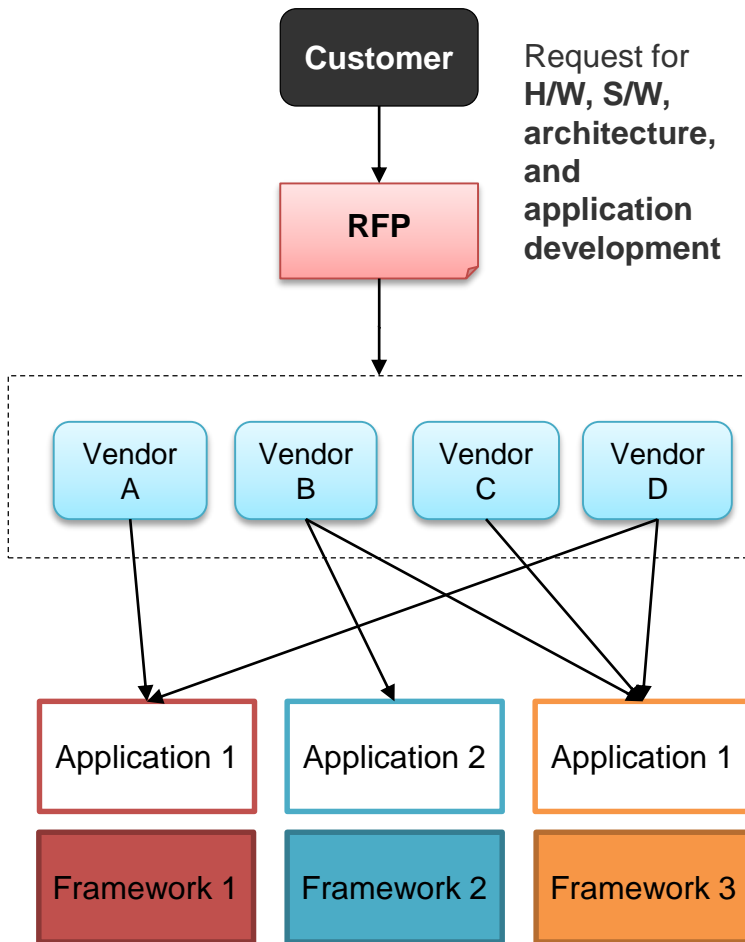

Major A   Major B   Major C

29%

71%

■ Framework unused
■ Framework used

→ **Some drawbacks** **were identified**

- Venders deliver SW frameworks as a black box type and application/service become dependent to proprietary framework

- Only framework providers can modify or extend application/service

- Framework is an expensive asset that only big vendors afford to posses it

- It becomes a technical barrier to SMEs, therefore big vendors dominated

- Framework differences caused redundant development of same functions
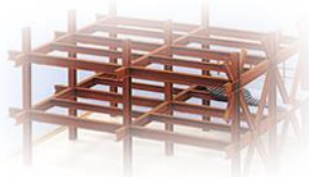
Reforming the governance of development

<Development with vendor's frameworks>

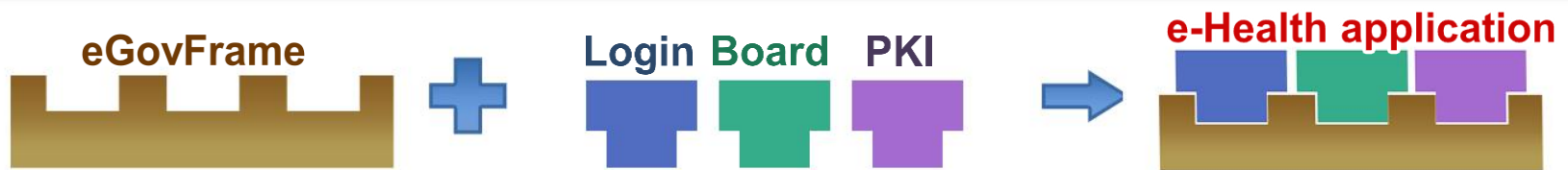**<Development with standard framework>**
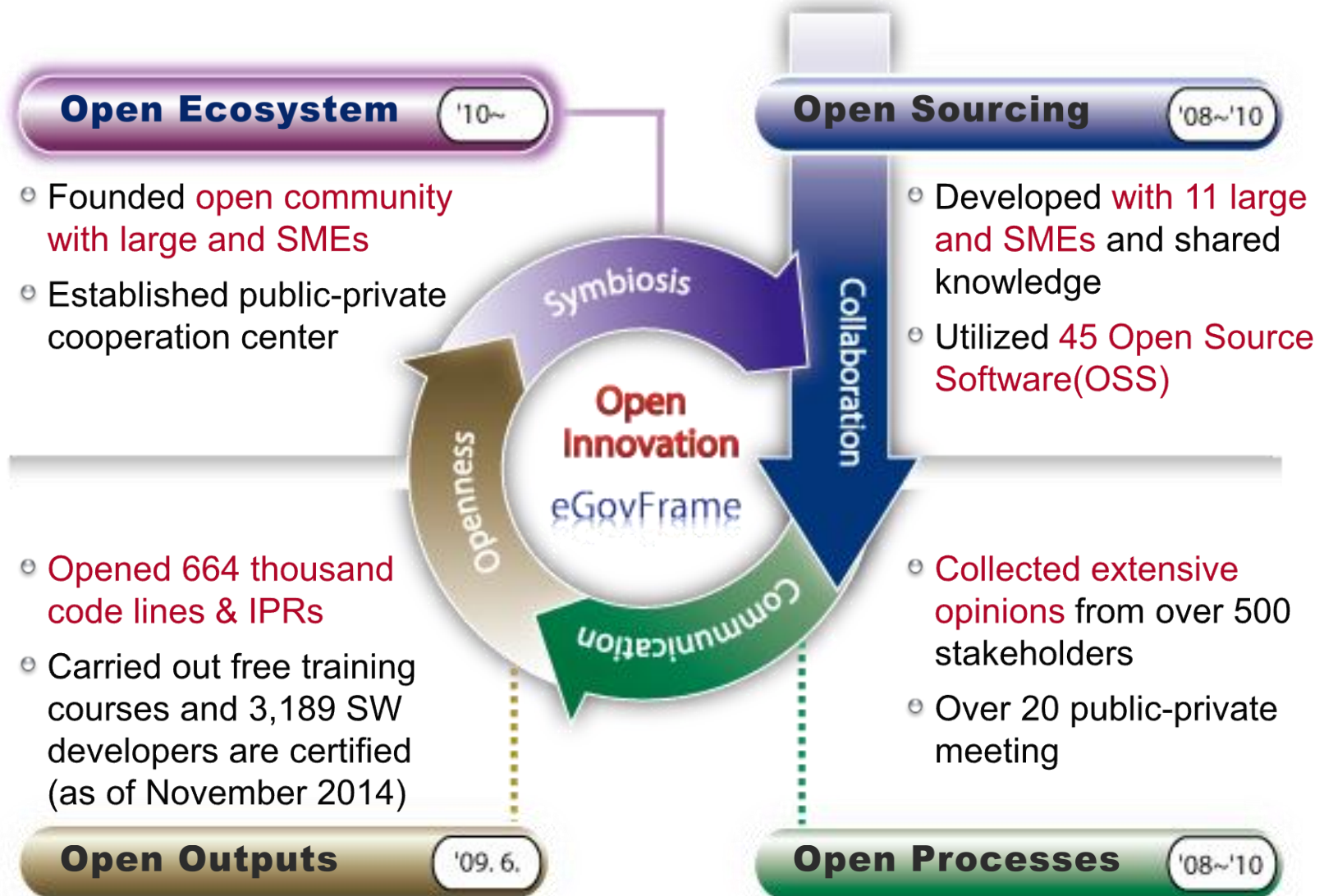
What is eGovFrame?

Open Source, non-proprietary SW framework
for developing and operating the applications/services

eGovFrame

○ **Basic functions** that is always needed to develop IS(Information system)

○ **Composition** [eGovFrame + new functions] ➔ e-Health application

○ **Promoting fair competition among vendors** by sharing same basis

Open innovation of eGovFrame

Open Ecosystem ('10~)

- Founded open community with large and SMEs
- Established public-private cooperation center

Open Sourcing ('08~'10)

- Developed with 11 large and SMEs and shared knowledge
- Utilized 45 Open Source Software(OSS)

Symbiosis

Collaboration

Open Innovation
eGovFrame

Openness

Communication

Open Outputs ('09. 6.)

- Opened 664 thousand code lines & IPRs
- Carried out free training courses and 3,189 SW developers are certified (as of November 2014)

Open Processes ('08~'10)

- Collected extensive opinions from over 500 stakeholders
- Over 20 public-private meeting

Key benefits of eGovFrame

Reduction of **TCO(Total Cost of Ownership)** and enhancement of **ROI(Return On Investment)** can be achieved

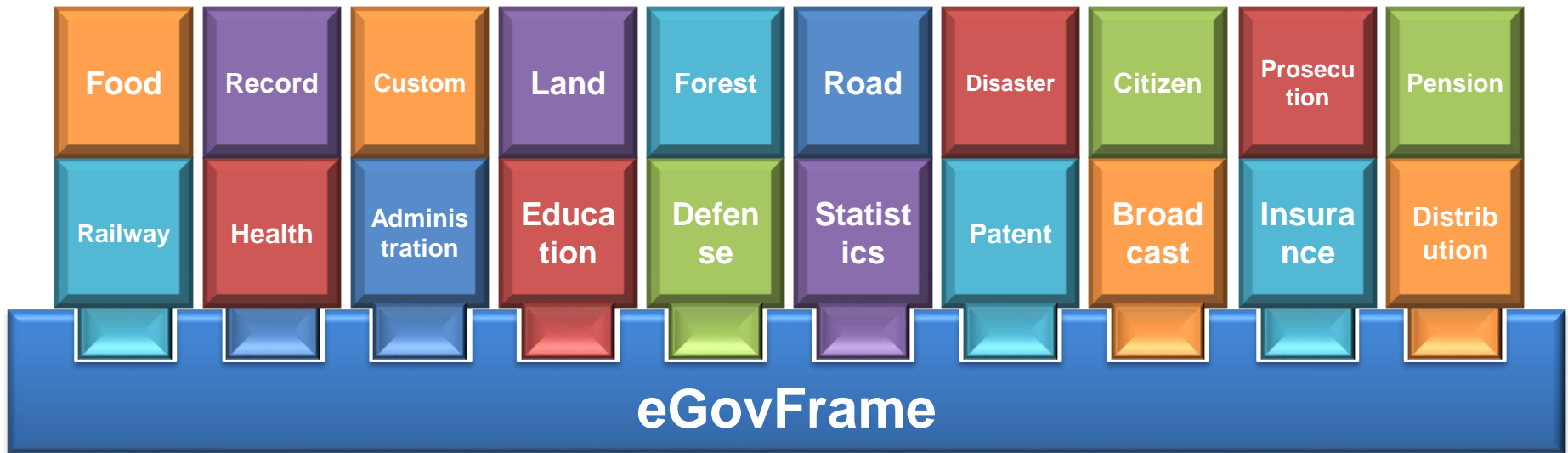| System development	System operation
• 20~30% productivity enhancement through the reuse of design and source codes • Simplification and standardization of development process • System quality enhancement with the help of proven architecture • Time and cost reduction of system development	• Minimize incidents of error • Improve efficiency through standardization of operation process • Secure performance and stability • Enhance interoperability between application

It has been applied to over 526 projects in Korea (total budget of over $ 1.54 billion)

eGovFrame as a National SW framework applicable to all public sectors

Food	Record	Custom	Land	Forest	Road	Disaster	Citizen	Prosecution	Pension
Railway	Health	Administration	Education	Defense	Statistics	Patent	Broadcast	Insurance	Distribution

eGovFrame

An innovative way for governmental organizations regardless of their sectors **to acquire information resource**
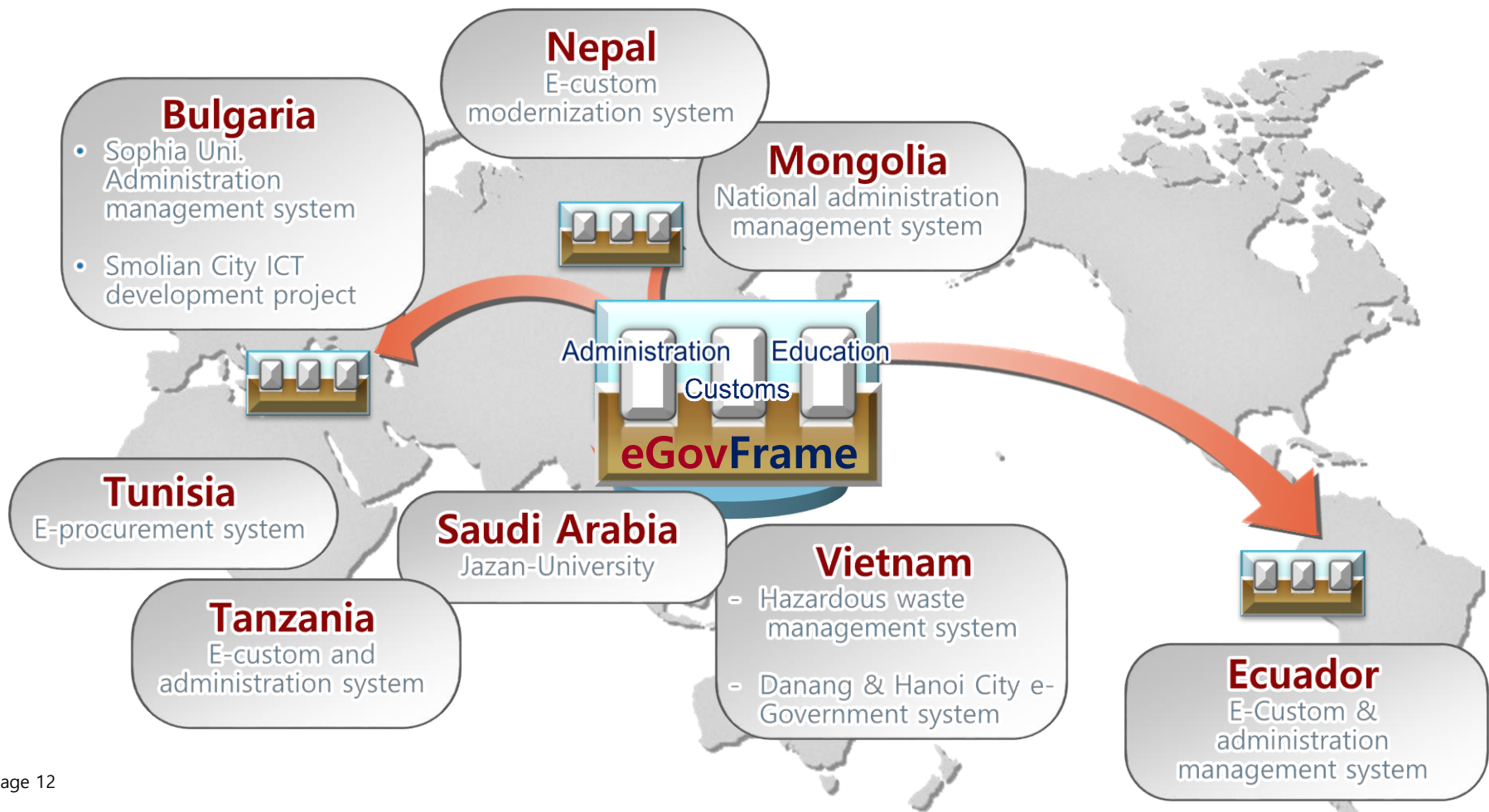
e-Health cases

eGovFrame has been utilized to over **16 e-Health projects** both on private and government/agency levels

Project Name	Agency	Project Name	Agency
u-Health Platform(1 stage)	SK Telecom	Medical Device Cloud System	Ministry of Food and Drug Safety
Medical expenses Portal System	Health Insurance Review & Assessment Service	National Health Insurance Service Homepage for Mobile	National Health Insurance Service
Hazardous Waste Management System [Vietnam]	Korea Environment Corporation	National Health Insurance Service representative Homepage	National Health Insurance Service
Drug Utilization Review(DUR) system	Health Insurance Review & Assessment Service	Medical Care Institution Portal System	Health Insurance Review & Assessment Service
Medical Center Information System	Incheon Medical Center	Local community Health and Medical System	Korea Health and Welfare Information Service
Medical Supplies Management System	Health Insurance Review & Assessment Service	Smart Care System	Ministry of Knowledge Economy
Local Community Fitness & Nutrition Investigation System	Korea Centers for Disease Control & Prevention	Hospital strategy System	Seoul National University Hospital
Health Care Prediction System	National Health Insurance Service	Integrated Medical System	Ministry of Justice

Global references

It has applied to 12 projects in 8 countries ranging from public administration, custom to education services

Nepal
E-custom modernization system

Bulgaria
- Sophia Uni. Administration management system
- Smolian City ICT development project

Mongolia
National administration management system

Administration Education
Customs
eGovFrame

Tunisia
E-procurement system

Saudi Arabia
Jazan-University

Vietnam
- Hazardous waste management system
- Danang & Hanoi City e-Government system

Tanzania
E-custom and administration system

Ecuador
E-Custom & administration management system

Global collaboration of eGovFrame

MoU signed in 2011

MoU signed in 2013

MoU signed in 2014

eGovFrame center in Mexico in 2013

Declared WeGO eGovFrame in 2014

Sharing
Knowledge and
experience

Thank you